Honors Biology
ABO Blood Type Problems
Mr. Dooner/Carmel High

SOLVE THE FOLLOWING ABO BLOOD TYPE PROBLEMS ON A SEPARATE SHEET. FOLLOW ALL STEPS

1. Mary, who is Type O, has eight children with her spouse Joe, who is Type AB. How many of their children would you *expect* to be Type A?

2. Mike has asked you to represent him as his attorney in a child support case. The year is 1951. His ex-girlfriend Sue, who is Type O, claims that Mike is the father of Baby Jane, who is also Type O. Mike is Type A. Would you take the case? Support your answer with Punnett squares.

3. The Smith family has 6 children. Mr. Smith is Type A and his wife is Type B. Friends of the family know that 2 of the children believe that they were adopted. Micah is Type O, Ismail is Type B, Becca and Paris are Type AB, and Melvin and Donovan are Type A. Is there any blood-type evidence which *proves* any of the children were adopted?

4. Baby Jamal has Type AB blood. His mother has Type AB blood and his father has Type O blood. Is there any possibility that Baby Jamal was adopted? What is the percent probability of your answer?

5. In the following case of disputed paternity, determine the probable father of the child. The mother is Type A, the child is Type O, one possible father is Type B and the other possible father is Type AB. Use Punnett squares to prove who is the *more probable* father.

INCOMPLETE DOMINANCE PROBLEM

In "4 o'clock" flowers, red flowers are imcompletely dominant over white flowers with the heterozygous condition being pink. In the following parent crosses, what will be the expected appearance of the offspring?

a) Pink x red
b) Red x white
c) White x pink
d) Pink x pink